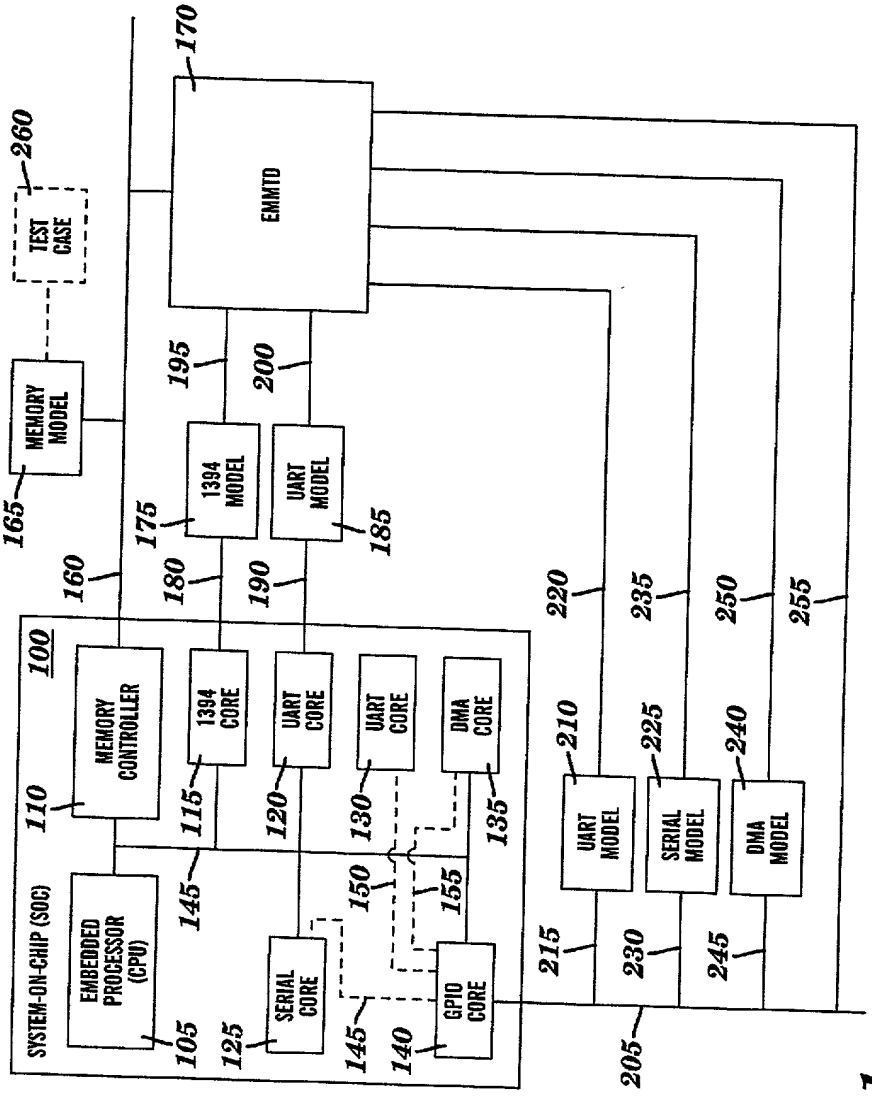
SYSTEM-ON-CHIP (SOC)
100
EMBEDDED PROCESSOR (CPU)
105
MEMORY CONTROLLER
110
1394 CORE
115
UART CORE
120
SERIAL CORE
125
UART CORE
130
GPIO CORE
140
DMA CORE
135
145
150
155
160
MEMORY MODEL
165
TEST CASE
260
EMMTD
170
1394 MODEL
175
UART MODEL
185
195
200
180
190
205
UART MODEL
210
SERIAL MODEL
225
DMA MODEL
240
215
230
245
220
235
250
255

FIG. 1

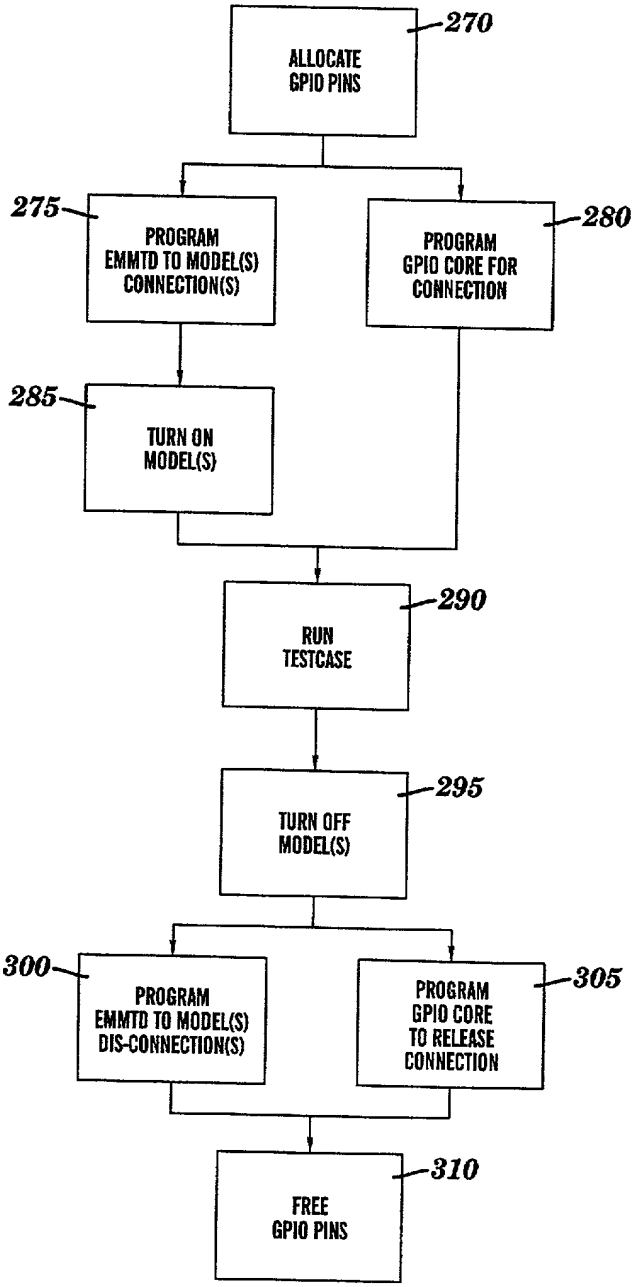

FIG. 2

09683677 - 020304

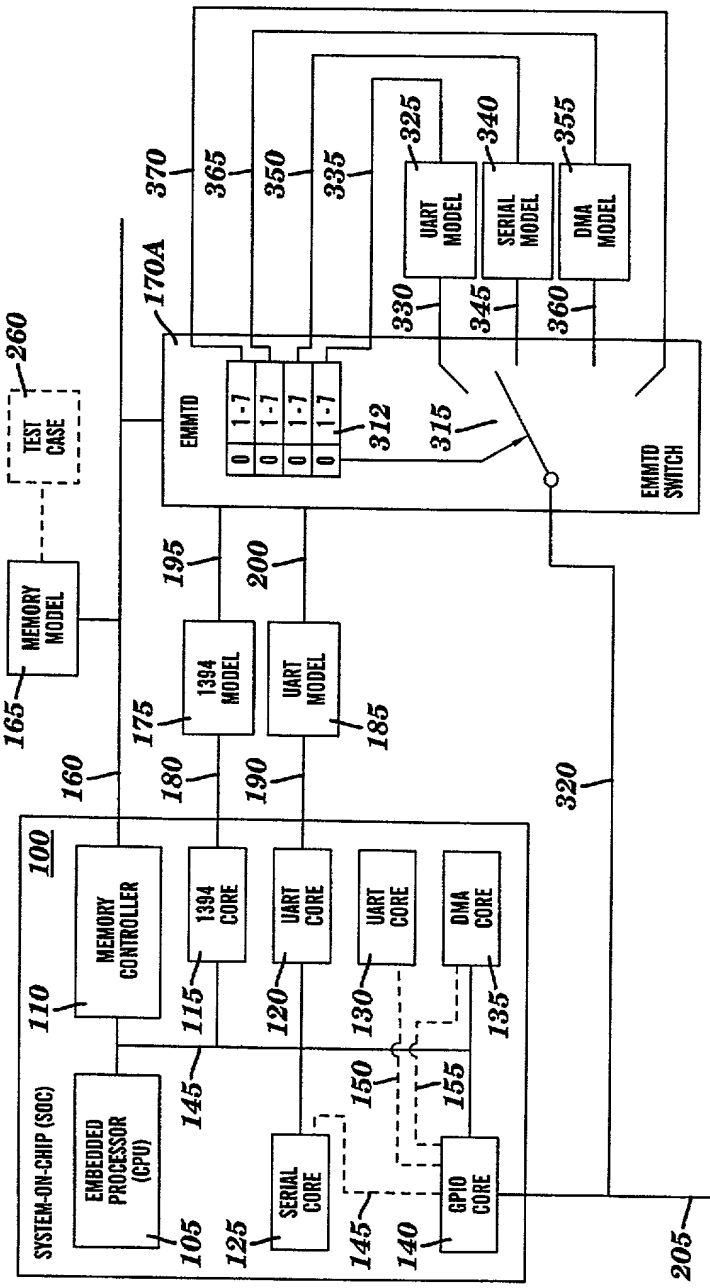
SYSTEM-ON-CHIP (SOC)
100
EMBEDDED PROCESSOR (CPU)
105
MEMORY CONTROLLER
110
1394 CORE
115
UART CORE
120
UART CORE
130
DMA CORE
135
SERIAL CORE
125
GPIO CORE
140
145
150
155
160
MEMORY MODEL
165
TEST CASE
260
1394 MODEL
175
180
UART MODEL
185
190
195
200
EMMTD
170A
1-7
0
312
EMMTD SWITCH
315
320
205
UART MODEL
325
330
SERIAL MODEL
340
345
DMA MODEL
355
360
365
370
335
350

FIG. 3

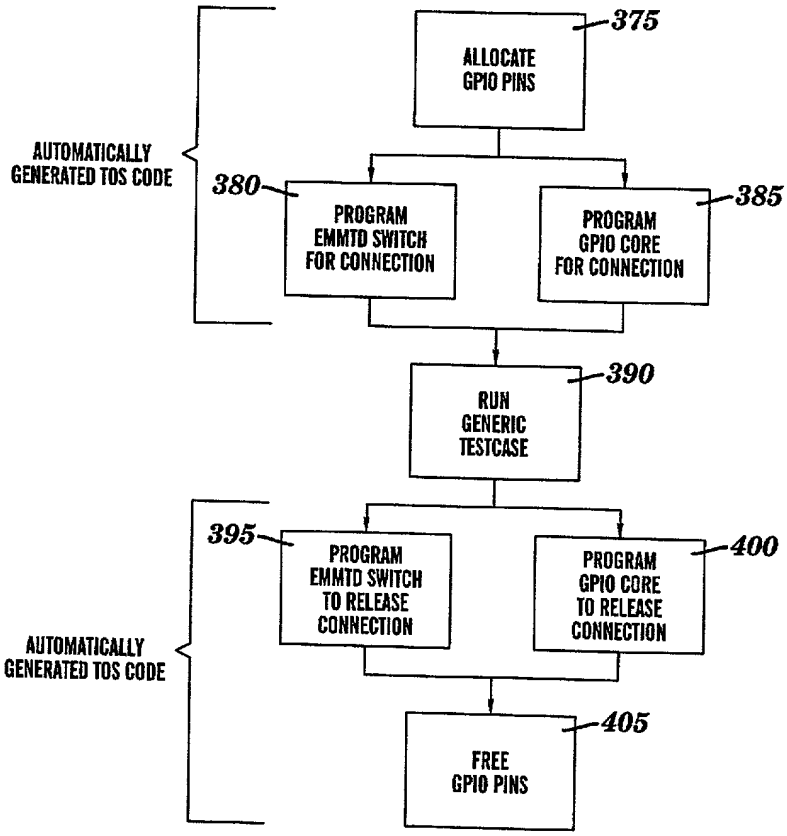
AUTOMATICALLY GENERATED TOS CODE
375
ALLOCATE GPIO PINS
380
PROGRAM EMMTD SWITCH FOR CONNECTION
385
PROGRAM GPIO CORE FOR CONNECTION
390
RUN GENERIC TESTCASE
AUTOMATICALLY GENERATED TOS CODE
395
PROGRAM EMMTD SWITCH TO RELEASE CONNECTION
400
PROGRAM GPIO CORE TO RELEASE CONNECTION
405
FREE GPIO PINS

FIG. 4

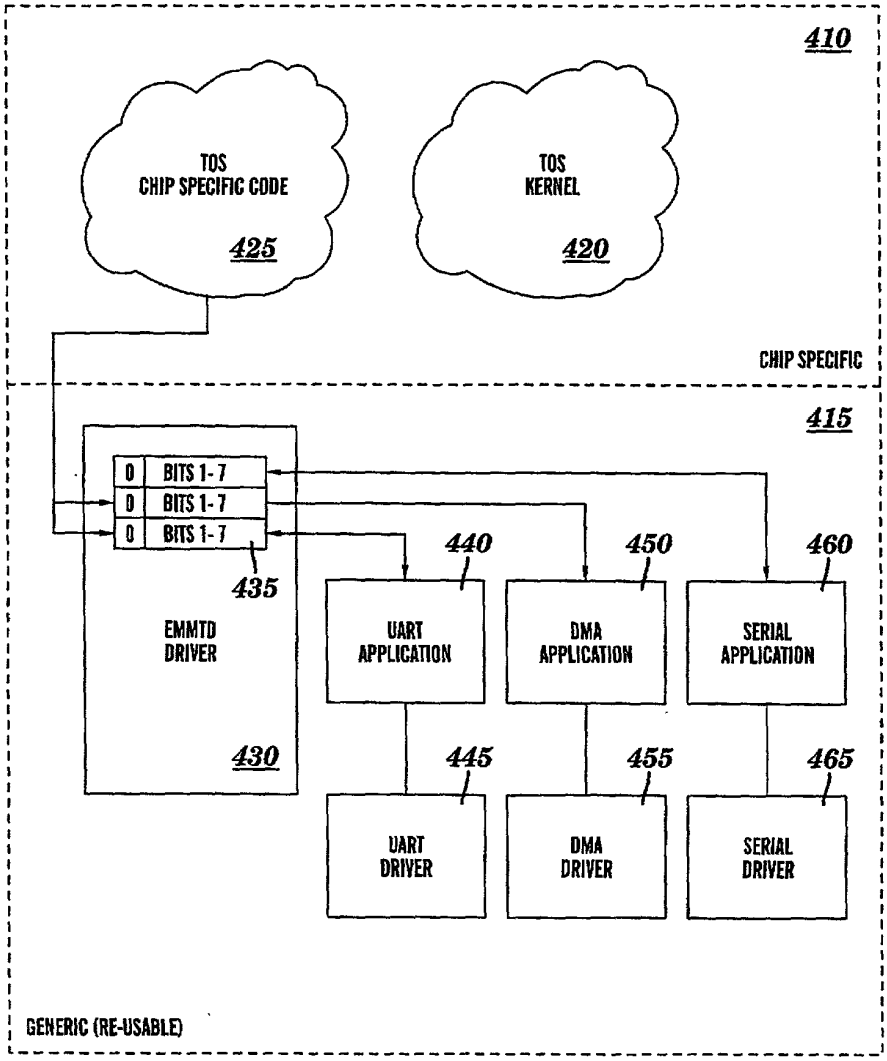
410
TOS
CHIP SPECIFIC CODE
425
TOS
KERNEL
420
CHIP SPECIFIC
415
0
BITS 1-7
0
BITS 1-7
0
BITS 1-7
435
EMMTD
DRIVER
430
440
UART
APPLICATION
450
DMA
APPLICATION
460
SERIAL
APPLICATION
445
UART
DRIVER
455
DMA
DRIVER
465
SERIAL
DRIVER
GENERIC (RE-USABLE)

FIG. 5

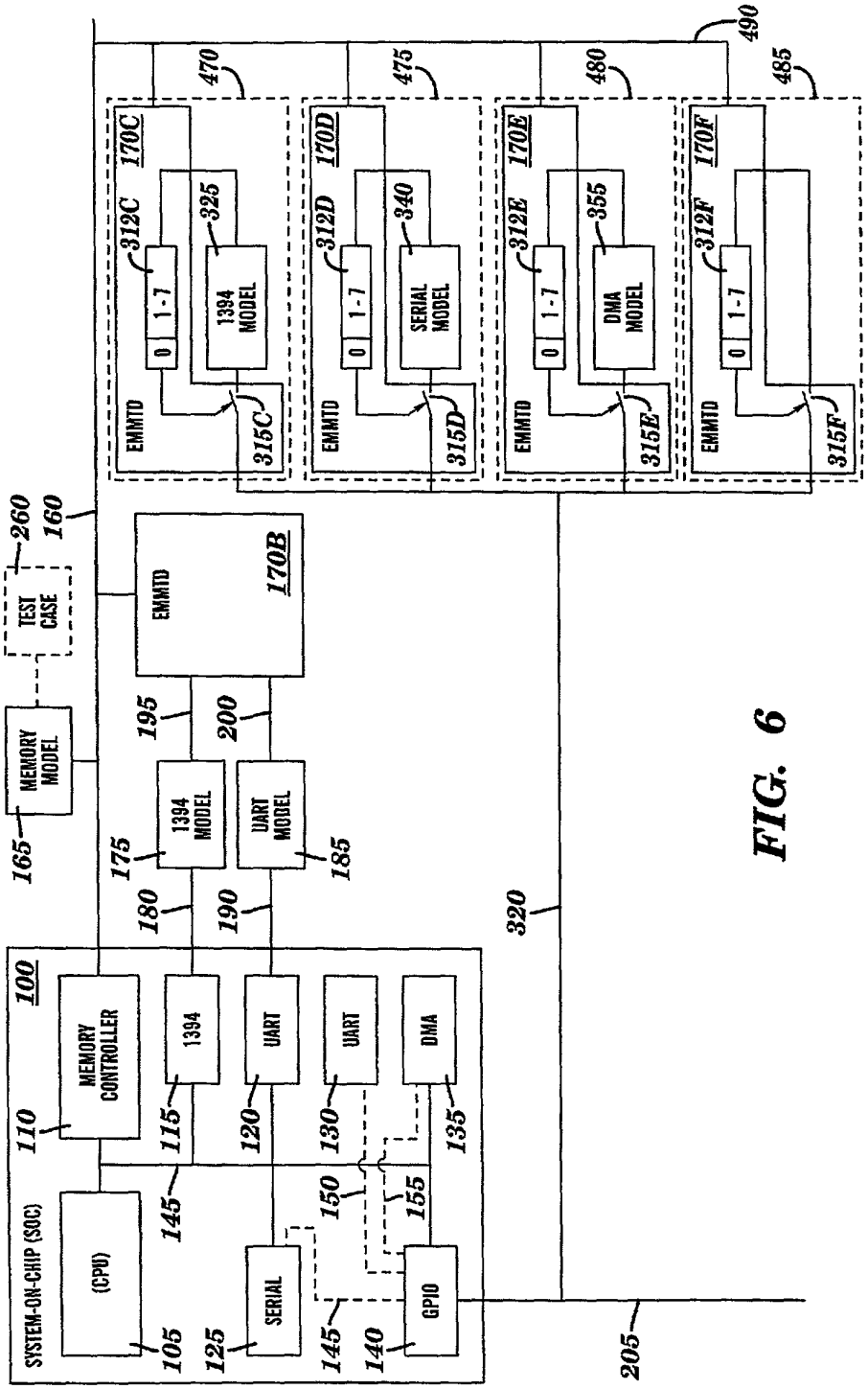
SYSTEM-ON-CHIP (SOC)
100
(CPU)
105
MEMORY CONTROLLER
110
1394
115
UART
120
UART
130
DMA
135
SERIAL
125
GPIO
140
145
150
155
MEMORY MODEL
165
TEST CASE
260
160
EMMTD
170B
1394 MODEL
175
UART MODEL
185
195
200
180
190
320
205
470
475
480
485
490
170C
170D
170E
170F
312C
312D
312E
312F
0
1-7
1394 MODEL
325
SERIAL MODEL
340
DMA MODEL
355
315C
315D
315E
315F

FIG. 6

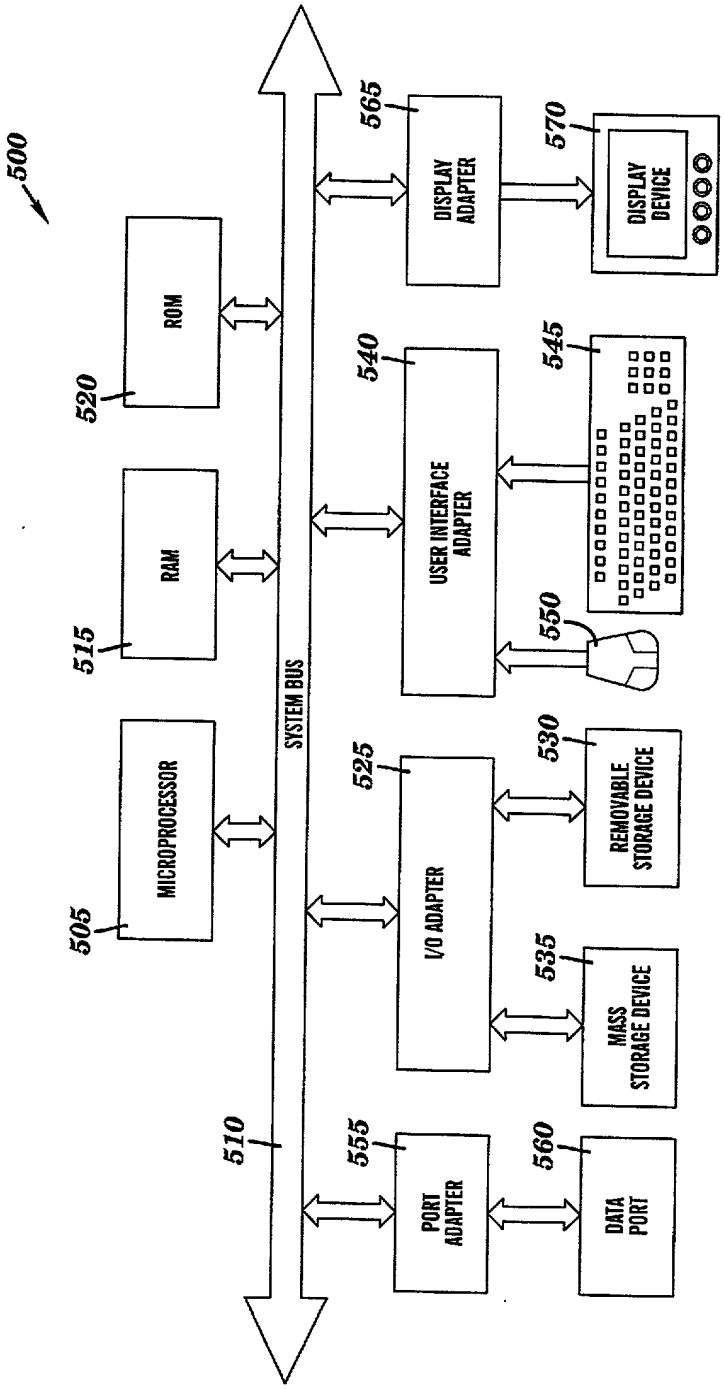

FIG. 7

App_ID=09683677